

Appl. No. : 10/734,776
Filed : December 12, 2003

REMARKS

The Applicants thank the Examiner for carefully and thoughtfully examining the present application. By way of summary, Claims 34-41 and 44-51 were pending in this application. In the present amendment, the Applicants have amended Claims 34-41 and 44-50. Accordingly, Claims 34-41 and 44-51 remain pending for consideration.

Support for amended Claims 34, 39, 44, and 49 may be found, for example, in Figure 14 and in the accompanying text at paragraphs [0121] through [0123]. Support for amended Claims 38 and 48 may be found, for example, in Figure 13 and in the accompanying text at paragraphs [0115] through [0120].

Rejection Of Claims Under 35 U.S.C. § 102

Claims 34, 36, 39, 41, 44, 46, 49, and 51

Claims 34, 36, 39, 41, 44, 46, 49, and 51 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,892,830, to Klayman ("Klayman"). Applicants respectfully traverse the rejection; however, to expedite prosecution, Applicants have amended Claims 34, 36, 39, 41, 44, 46, 49, and 51. Applicants reserve the right to prosecute previous versions of all amended claims in future patent applications.

Claims 34, 36, 39, and 41

Claim 34 has been amended to recite, among other things,

A method . . . comprising:

phase adjusting a first input to an audio enhancement system to produce phase adjusted first information;

enhancing a second input to the audio enhancement system to produce enhanced second information;

inverting the enhanced second information; and

combining at least a portion of the phase adjusted first information with at least a portion of the inverted enhanced second information to generate an enhanced monophonic output, such that a difference between 1) a first phase response of the audio enhancement system to the first input being a unity input and 2) a second phase response of the audio enhancement system to the second input being a unity input, is greater than zero for frequencies in the range of about 100 Hz to about 10 kHz.

Appl. No. : 10/734,776
Filed : December 12, 2003

The Applicants respectfully traverse this rejection because Klayman fails to identically teach every element of amended Claim 34. For example, Klayman fails to teach or suggest, among other things, "phase adjusting a first input" and "combining . . ., such that a difference between 1) a first phase response of the audio enhancement system to the first input being a unity input and 2) a second phase response of the audio enhancement system to the second input being a unity input, is greater than zero for frequencies in the range of about 100 Hz to about 10 kHz."

In contrast, Klayman teaches a stereo enhancement system that receives two inputs, combines the inputs to create a sum signal and a difference signal, adjusts the signal levels of the sum and difference signals, and provides an adjusted difference signal to an equalizer. Figure 1; Col.4:14-56. The output of the equalizer is further combined with the adjusted sum signal to produce another difference signal, which is provided as a right output signal. Col. 4:4-7. As a result, the right output signal is "180 degrees out-of-phase from" the left output signal. Col. 5:7-11.

Thus, for at least these reasons, Claim 34 is allowable over the applied art. Claims 36, 39, and 41 depend from Claim 34 and are therefore patentable for at least this reason as well. Claims 36, 39, and 41 are also patentable due to the unique combination of features recited therein. Therefore, Applicants respectfully request allowance of Claims 34, 36, 39, and 41.

Claims 44, 46, 49, and 51

Claim 44 has been amended to recite, among other things,

An audio enhancement apparatus . . . comprising:

- a first phase adjuster operatively coupled to a first input to an audio enhancement system to produce phase adjusted first information;

- a first enhancer operatively coupled to a second input to an audio enhancement system to produce enhanced second information;

- an inverter to invert the enhanced second information; and

- a mixer that combines at least a portion of the phase adjusted first information with at least a portion of the inverted enhanced second information to generate an enhanced monophonic output, such that a difference between 1) a first phase response of the audio enhancement system to the first input being a unity input and 2) a second phase response of the audio enhancement system to the second input being a unity input, is

Appl. No. : 10/734,776
Filed : December 12, 2003

greater than zero for frequencies in the range of about 100 Hz to about 10 kHz.

The Applicants respectfully traverse this rejection because Klayman fails to identically teach every element of amended Claim 44. For example, for similar reasons to those provided above, Klayman fails to teach or suggest, among other things, "a first phase adjuster" and "a mixer . . . such that a difference between 1) a first phase response of the audio enhancement system to the first input being a unity input and 2) a second phase response of the audio enhancement system to the second input being a unity input, is greater than zero for frequencies in the range of about 100 Hz to about 10 kHz."

Thus, for at least these reasons, Claim 44 is allowable over the applied art. Claims 46, 49, and 51 depend from Claim 44 and are therefore patentable for at least this reason as well. Claims 46, 49, and 51 are also patentable due to the unique combination of features recited therein. Therefore, Applicants respectfully request allowance of Claims 44, 46, 49, and 51.

Claims 34-40 and 44-50

Claims 34-40, and 44-50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. patent no. 4,972,489, to Oki et al., ("Oki"). Applicants respectfully traverse the rejection; however, to expedite prosecution, Applicants have amended Claims 34-40 and 44-50. Applicants reserve the right to prosecute previous versions of all amended claims in future patent applications.

Claims 34-40

The Applicants respectfully traverse this rejection because Oki fails to identically teach or suggest all the elements of amended Claim 34. For example, Oki fails to teach or suggest, among other things, "combining at least a portion of the phase adjusted first information with at least a portion of the inverted enhanced second information to generate an enhanced monophonic output, such that a difference between 1) a first phase response of the audio enhancement system to the first input being a unity input and 2) a second phase response of the audio enhancement system to the second input being a unity input, is greater than zero for frequencies in the range of about 100 Hz to about 10 kHz."

In contrast, Oki teaches a system for eliminating a standing sound wave in an automobile. Abstract. One signal source (e.g., from a radio) is provided to two bandpass filters which “produce components of . . . frequency bands of the audio signal of respective desired ranges.” Figure 5; col. 3:12-19. These ranges include frequencies at which standing waves in the automobile are particularly pronounced. See col. 1:42-46; 3:22-24. The outputs of the bandpass filters are provided to phase shifters, which adjust the phases of the frequency-selected signals to compensate for standing waves at the selected frequencies. In one embodiment, the phase adjusters create “inversely phase-shifted sound wave[s],” which when combined with a sound wave from the signal source, eliminate the standing waves. Col. 4:7-15.

Thus, for at least these reasons, Claim 34 is allowable over the applied art. Claims 35-40 depend from Claim 34 and are therefore patentable for at least this reason as well. Claims 35-40 are also patentable due to the unique combination of features recited therein. Therefore, Applicants respectfully request allowance of Claims 34-40.

Claims 44-50

The Applicants respectfully traverse this rejection because Oki fails to identically teach every element of amended Claim 44. For example, for similar reasons to those provided above, Oki fails to teach or suggest, among other things, “a mixer that combines at least a portion of the phase adjusted first information with at least a portion of the inverted enhanced second information to generate an enhanced monophonic output, such that a difference between 1) a first phase response of the audio enhancement system to the first input being a unity input and 2) a second phase response of the audio enhancement system to the second input being a unity input, is greater than zero for frequencies in the range of about 100 Hz to about 10 kHz.”

Thus, for at least these reasons, Claim 44 is allowable over the applied art. Claims 45-50 depend from Claim 44 and are therefore patentable for at least this reason as well. Claims 45-50 are also patentable due to the unique combination of features recited therein. Therefore, Applicants respectfully request allowance of Claims 44-50.

Appl. No. : 10/734,776
Filed : December 12, 2003

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

Conclusion

In view of the foregoing, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain to be resolved, the Examiner is cordially invited to contact the undersigned such that any remaining issues may be promptly resolved. Also, please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 11/6/07

By: Scott Raevsky
Scott Raevsky
Registration No. 54,384
Agent of Record
Customer No. 20,995
(949) 760-0404